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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,091	01/10/2002	Stacey Secatch	10011023-1	7569

7590 11/20/2003

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EXAMINER	
NGUYEN, TANH Q	

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/044,091	Applicant(s) SECATCH ET AL.	
	Examiner Tanh Q. Nguyen	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration (residence for Thomas Henkel). See 37 CFR 1.52(c).

Specification

2. The disclosure is objected to because of the following informalities: 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms, which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: blocks 52-55 (page 6, lines 18-34) being used in a manner that is inconsistent with FIG. 5. Appropriate correction is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: block 55 (page 6, line 34). A proposed drawing correction or corrected

drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 5, 16 are objected to because of the following informalities:

"a" should be inserted before "write clear input" on line 2, claim 5 for consistency.

"a read clear input" on line 2 and "the read clear signal" on line 4 of claim 5 suggest two different entities - and if this is the case, there is insufficient antecedent basis for "the read clear signal".

"a read clear input" on line 2 and "the read clear signal" on line 4 of claim 16 suggest two different entities - and if this is the case, there is insufficient antecedent basis for "the read clear signal".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> **The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.**

6. Claims 7-8, 9-12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a read address incrementer logic incrementing the read address each time data is read from an address in the FIFO, does not reasonably provide enablement for a read address incrementer logic incrementing the

read address each time data is written to an address in the FIFO (claim 7, line 4, claim 9, line 12). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. A read address incrementer logic incrementing the read address each time data is written to an address is not supported by either a specific asserted FIFO utility or a well established FIFO utility.

7. Claims 7-8, 9-12 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility.

The art related to FIFO does not support a read address incrementer logic incrementing the read address each time data is written to an address in the FIFO.

Claims 7-8, 9-12 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.**

9. Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 recites the limitation "the number of times"

and "the sequence" in lines 1 and 2, respectively. There is insufficient antecedent basis for the limitations in the claim.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by **Bentz (PN US 2003/0034797 A1)**.

12. As per claim 1, **Bentz** teaches a non-destructive read FIFO [202, FIG. 2], the non-destructive read FIFO being configured to enable data that has been read from an address in the FIFO in a first read cycle to be re-read from the same address in the FIFO in a subsequent read cycle ([0006], lines 8-24).

13. As per claims 2-8, Bentz teaches that when the FIFO is full ([0019], lines 5-9), data stored at the addresses in the FIFO will be read out of the FIFO multiple times in a sequence in which the data was written into the FIFO ([0031], [0032]); it is further noted that when fifoEntry1 is set to the correspond to the first address of the FIFO and

fifoEntry2 is set to correspond to the last address of the FIFO, the full signal would be asserted when data are stored in all of the addresses of the FIFO – claim 2;

that the number of times [number_of_repeats, FIG. 4] that data stored at the addresses in the FIFO will be read out of the FIFO in the sequence in which the data was written into the FIFO is controlled by a source external to the FIFO ([0031], [0032]) – claim 3;

that the non-destructive read FIFO is used in implementing programming looping constructs ([0005], lines 9-11; [0031], lines 1-3), hence the non-destructive read FIFO being within a processor, and wherein the data stored at addresses in the FIFO corresponds to a subroutine of instructions [FIG. 4, inner loop] that is to be executed a plurality of times [number_of_repeats, FIG. 4] by the processor, the processor comprising logic corresponding to said external source that controls the number of times ([0031], lines 24-26) the data stored at the addresses in the FIFO is read out of the FIFO in the sequence in which the data was written into the FIFO ([0031], [0032]) – claim 4;

that the FIFO comprises a write signal input [204, 214, FIG. 2], a read signal input [206, 216, FIG. 2], a write clear input [208, FIG. 2] and a read clear input [222, FIG. 2], the FIFO comprising a full flag output [210, FIG. 2] and an empty flag output [212, FIG. 2] wherein each time the subroutine of instructions is read out of the FIFO, the read clear signal is asserted, thereby causing a read address pointer of the FIFO to be reset to a first address at which a first instruction of the subroutine of instructions was written (when i is less than number_of_repeats [FIG. 4], signal 222 is asserted

each time the subroutine of instructions is read out of the FIFO, and when repeat signal 222 is asserted, the read address pointer of the FIFO is reset to a first address at which a first instruction of the subroutine of instructions was written – [0031], [0032]), and wherein after the subroutine of instructions has been read out of the FIFO a preselected number of times [number_of_repeats, FIG. 4], an empty flag is set (in the context of implementing programming looping constructs of FIG. 4, when the subroutine of instructions has been read out of the FIFO a preselected number of times ([0031], lines 24-26), rereading data is no longer desired, the release signal is asserted causing the release pointer to be incremented with the read pointer ([0034], lines 13-15; [0024]; [0025], lines 1-10): when this happens, the read pointer and the release pointer catch up with the write pointer so the FIFO is now empty, accordingly the empty signal is asserted (claim 24); [0025], lines 10-13), which prevents any more of the instructions from being read out of the FIFO until the FIFO has been filled with new data – claim 5;

that the non-destructive read FIFO comprises write logic and read logic [control logic, FIG. 2; [0018], lines 17-21], the write logic comprising write address incrementer logic and write address comparison logic, the write address incrementer logic incrementing the write address each time data is written to an address in the FIFO, the write address comparison logic comparing the incremented write address to a preselected number (release pointer, hence a number corresponding to the number of instructions in a loop), wherein when the incremented write address is determined by the write address comparison logic to be equal to the preselected number, a full flag is

set and no more data is written to the FIFO ([0019], lines 4-9; [0015], lines 30-41, lines 18-20; [0018], lines 2-5); it is further noted that with respect to [0031] and [0032], when fifoEntry1 is set to the correspond to the first address of the FIFO and fifoEntry2 is set to correspond to the last address of the FIFO, the full signal would be asserted when data are stored in all of the addresses of the FIFO: in this case the preselected number represents the capacity (or the number of addresses) in the FIFO – claim 6.

that the non-destructive read FIFO comprises write logic and read logic [control logic, FIG. 2; [0018], lines 17-21], the read logic comprising read address incrementer logic and read address comparison logic, the read address incrementer logic incrementing the read address each time data is read from an address in the FIFO ([0015], lines 30-41), the read address comparison logic comparing the incremented read address to a preselected number (with respect to [0031] and [0032], when fifoEntry1 is set to the correspond to the first address of the FIFO and fifoEntry2 is set to correspond to the last address of the FIFO, the preselected number would correspond to the number of addresses in the FIFO) and to a current write address - Bentz's FIFO incorporates the functionalities of a conventional FIFO ([0018], lines 2-5) and is used to transfer both data within a loop and outside a loop [FIG. 3], [0022]-[0025], hence includes a comparison logic comparing the incremented read address to a current write address to allow read and write to the FIFO to be done concurrently as long as the read pointer does not advance in front of the write pointer - wherein when the incremented read address is determined by the read address comparison logic to be equal to the preselected number or to be greater than the current write address, an

empty flag is set and a determination is made as to whether the read address should be reset to a first address at which data was written to in the FIFO ([0015], lines 27-41; [0018], lines 2-5) – claim 7;

that when a source external to the FIFO determines that the condition of whether the incremented read address is equal to the preselected number or greater than the current write address has been true a preselected number of times, the external source prevents additional reads of the data from the FIFO from occurring until the FIFO has been filled with new data and a full flag has been set (in the context of implementing programming looping constructs of FIG. 4, when the subroutine of instructions has been read out of the FIFO a preselected number of times ([0031], lines 24-26), rereading data is no longer desired, the release signal is asserted causing the release pointer to be incremented with the read pointer ([0034], lines 13-15; [0024]; [0025], lines 1-10): when this happens, the read pointer and the release pointer catch up with the write pointer so the FIFO is now empty, accordingly the empty signal is asserted (claim 24); [0025], lines 10-13), which prevents any more of the instructions from being read out of the FIFO until the FIFO has been filled with new data) – claim 8.

14. As per claims 9-12, see the rejections to claims 4-8 above.

15. As per claim 13, Bentz teaches a method [FIG. 4] for reading data values stored at addresses in a FIFO out of the FIFO in a manner that does not destroy the stored data values so that the stored data values can be re-read from the FIFO in a same

sequence in which the data values were stored in the FIFO a multiplicity of times (see the rejections to claims 1-2 above), the method comprising the steps of:

storing data values at addresses in the FIFO ([0032], lines 3-5);

when an empty flag has not been set and a read signal is asserted, reading the data values out of the FIFO in a same sequence in which the data values were stored in the FIFO ([0032], lines 5-11);

when all of the data values have been read out of the FIFO, determining whether the data values should again be read out of the FIFO in the sequence in which the data values were stored in the FIFO ([0031], lines 24-26); and

if a determination is made that the data values should again be read out of the FIFO, reading the data values out of the FIFO in the sequence in which the data values were written into the FIFO ([0032], lines 11-16).

16. As per claims 14-16, see rejections to claims 13, 3-5 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanh Quang Nguyen whose telephone number is (703) 305-0138, and whose e-mail address is tanh.nguyen36@uspto.gov. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached on (703) 308-3301. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306

for After Final, Official, and Customer Services, or (703) 746-5672 for Draft to the Examiner (please label "PROPOSED" or "DRAFT").

JEFFREY GAFFIN
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TQN

November 12, 2003